



Reliable Nitrogen Membrane Modules are the heart of a nitrogen generation system. **GENERON®** membrane modules have been at the forefront of the industry for over 40 years. Our research and development team in California works to continually improve the performance and durability of our membranes.

By simply supplying the **GENERON®** membrane modules with compressed air, they will generate a nitrogen stream that is suitable for a wide range of industries including beverage, laboratory, food, controlled atmosphere, pharmaceutical, chemical, textile, heat treatment, electronics and many more.

Features & Benefits

✔ Over 40 years of Manufacturing and Engineering

GENERON® Membranes have been the benchmark of the industry and proud to have shipped over 100,000 membranes around the world.

✔ Save Energy

GENERON® Membrane modules offer the highest efficiency in the market, reducing your compression

✔ Quality is Guaranteed

Every GENERON® Membrane module is rigorously tested to the highest-standards in one of our ISO-9001 certified facilities.

✔ Easy Start-Up

GENERON® Systems are delivered ready to start and deliver nitrogen.

✔ Suited for Tough Environments

GENERON® Membrane modules are built to withstand even the roughest operating conditions, including the harsh off-shore environment.

✔ Reduced Footprint

GENERON® Membrane modules have the highest productivity in the industry and can have a 30% smaller footprint, allowing for horizontal or vertical installation, and adaptable to any space requirement.

Operating Conditions

Max Pressure	203 psig (14 barg)
Temperature (Min /Max)	40 °F (4.4 °C) / 149 °F (65 °C)
Max Relative Humidity	80% (no liquid water)
Max Particle Size	0.01 micron

Mechanical Description

Outer Diameter	4.50 inch (114 mm)
Length	36 1/2 inch (927 mm)
Weight	17 lbs (7.7 kg)
Case Material	6061-T6 Aluminum

GENERON® MEMBRANE MODULES - Model 4100

Nitrogen Product Flow Rate at 25°C (77°F) vs. Product Purity

Pressure barg (psig)	Nitrogen Product Purity in Vol% and Product Flow Rate in Nm ³ /h (SCFH)					
	95%	96%	97%	98%	99%	99.5%
6.9 (100)	6.5 (251.6)	5.5 (213.1)	4.6 (176.1)	3.6 (139.8)	2.6 (101.9)	2 (78.5)
8.5 (125)	8.8 (338.8)	7.5 (287.5)	6.2 (238.1)	4.9 (189.6)	3.6 (138.9)	2.8 (107.7)
10.4 (150)	11.5 (443.2)	9.8 (376.7)	8.1 (312.6)	6.5 (249.8)	4.8 (184)	3.7 (143.3)
12.1 (175)	13.9 (535.4)	11.8 (455.6)	9.8 (378.7)	7.9 (303.3)	5.8 (224.3)	4.6 (175.4)
13.8 (200)	16.2 (625.4)	13.8 (532.7)	11.5 (443.5)	9.2 (355.9)	6.8 (264.1)	5.4 (207.3)

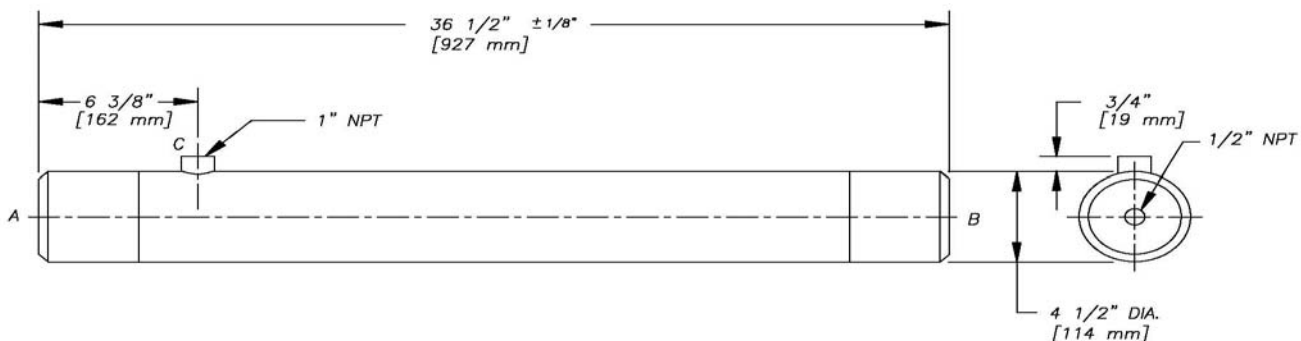
Air Recovery Rate at 25°C (77°F) in [%] vs. Product Purity

Pressure barg (psig)	Air Recovery Rate at 25°C (77°F) in [%] vs. Product Purity					
	95%	96%	97%	98%	99%	99.5%
6.9 (100)	51.1%	47.7%	43.6%	38.6%	31.6%	26.2%
8.5 (125)	52.8%	49.4%	45.3%	40.3%	33.3%	27.9%
10.4 (150)	54.1%	50.7%	46.7%	41.7%	34.8%	29.4%
12.1 (175)	54.8%	51.4%	47.5%	42.6%	35.7%	30.4%
13.8 (200)	55.2%	51.9%	48.0%	43.2%	36.4%	31.1%

Porting Configuration

Connection	Size
A—Feed	1/2" FNPT
B—Product	1/2" FNPT
C—Permeate	1" FNPT

1. Seal connections with Teflon Tape or Formula 8 Thread Sealant only.
2. Standard Conditions: 77°F (25°C) and 14.696 psi (1 atm)
3. Performance after 1 year (9,000 hours) of continuous operation



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